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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,512	01/12/2001	Simon Daniel Scullion	33718 PCTUSA	6044

21003 7590 02/14/2006

BAKER & BOTTS  
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NEW YORK, NY 10112

EXAMINER
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KUHNS, SARAH LOUISE

ART UNIT	PAPER NUMBER
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1761

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/700,512

Applicant(s)

SCULLION ET AL.

Examiner

Sarah L. Kuhns

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 111,119 and 171-183 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 111,119 and 171-183 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

Claims 111, 119 and 171-183 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, GB 2 232 400B in view of Cassidy (San Jose Mercury News, Morning Ed., Final Science and Medicine, page 1C), Phanny ([www.mit.edu/~mbarker/sum97/awar970630.txt](http://www.mit.edu/~mbarker/sum97/awar970630.txt), June 30, 1997) and Botsaris, U.S. Patent 5,966,966.

In regard to claims 111, 182 and 183, Johnson discloses a method of serving a draught alcoholic beverage, such as beer, in an open-topped drinking vessel cool, said beverage comprising a water content, an alcohol content, and a dissolved gas content, (page 1). While Johnson does disclose cooling means for controlling a temperature of the beverage prior to dispensing (page 1), it does not disclose ice crystal forming means. Cassidy teaches that it was well known to one of ordinary skill in the art that chilling beer in a container, down to a temperature at which it is almost frozen, causes the beer to freeze up when the container is opened. "When the beer is opened, some of the carbon dioxide bubbles out of the liquid, the freezing point rises to a higher temperature and the beer promptly freezes" (bottom of page 3). It therefore would have been obvious to cool the beer to a temperature below the freezing point of water to

provide ice crystal forming means, which would provide for an iced draught beverage without the addition of ice or water, which would dilute the beverage. This would be made even further obvious in view of Phanny, which discloses, albeit fictionally, the use of a “supercooled tap beer line” to deliver lager to customers. Also, it would have been expected that the ice would develop from an upper level of the beverage downwards in the beverage in view of the teaching of Cassidy, because the carbon dioxide would escape from the open top of the beverage first. The formation of ice would slow down the escape of carbon dioxide from the bottom of the beverage, thereby making the ice projection formed narrower at the bottom of the drinking vessel. Since the head forms due to the escaping carbon dioxide, it would be expected that the ice would form below the head.

Johnson does not disclose the use of ultrasound signals. Botsaris discloses a process and system for freeze concentration using ultrasonic nucleation, also called sonocrystallization (abstract). In the process the effluent is supercooled to below the freezing point of water and then exposed to internal ultrasound while agitating (see figure 1). While the patent disclosure is preferably directed to pulp mill effluents, it broadly teaches the use of the process for liquids. It is noted that Botsaris refers to fruit juice concentration (column 2, lines 11-33). As discussed above Cassidy teaches that chilling beer in a container, down to a temperature at which it is almost frozen, will cause the beer to freeze up when the container is opened, making it obvious to cool the beer of Johnson to such a temperature in order to provide an iced draught beverage without the addition of ice or water, which would dilute the beverage. It would further

have been obvious to incorporate an ultrasound generating means into the apparatus of Johnson as a nucleation means because its use in the creation of ice crystals in supercooled fluids was well known.

In regard to claims 119, 175 and 176, Johnson discloses the beverage being beer, lager, and the like (page 1, lines 1-3), which are known to have alcohol contents such as that claimed.

In regard to claims 171-174, it would have been expected that the amount, form and size of the ice crystals would be a function of the temperature of the beer being dispensed and it would have been obvious to vary the temperature in order to achieve the size, form and amount of ice that would chill the beverage as desired.

In regard to claims 177-179, it would have been obvious to cool the beverage to a temperature, such as those claimed, that would cause ice crystal formation, as taught by Cassidy, in order to provide an iced draught beverage without the addition of ice or water, which would dilute the beverage.

In regard to claim 181, Johnson discloses a step of recirculating the beverage within the means for dispensing prior to dispensing the beverage (page 6).

### ***Response to Arguments***

Applicant's arguments filed April 18, 2005, have been fully considered but they are not persuasive.

Applicant argues that the teaching of Cassidy concerns the solid freezing of a bottle of beer and as such, there would be no need to modify the teaching of Cassidy

with ultrasound nucleation. Johnson discloses a method of serving draught beer and Cassidy and Phanny provide motivation to supercool the beer as discussed above. Cassidy further discloses that the beer freezes as a result of the carbon dioxide bubbling out of the beer and the carbon dioxide would not bubble out of beer coming out of a tap, as in Johnson, until it was in the drinking vessel (head does not form on beer as it is being poured).

Also, as Botsaris discloses that the conventionality of the use of ultrasound signals in the creation of ice crystals in supercooled fluids was well established, there is motivation to use ultrasound signals in the process of Johnson in view of Cassidy and Phanny, since it also relates to supercooled fluid and ice crystal formation.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah L. Kuhns whose telephone number is 571-272-1088. The examiner can normally be reached on Monday - Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached at 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SLK



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